

Note: You are reminded that in assessing your work, account will be taken of accuracy of the language and general quality of expression, together with layout and presentation of your answer.

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SPECIAL NOTES: The use of a non-programmable calculator is allowed

## QUESTION 1

Bitten Ltd manufactures and sells a sing product at a unit selling price of E25. In constant-price-level terms its cost structures is as follows:

Variable costs:
Production materials E1o per unit produced
Distribution E1 per unit sold
Semi-variable costs:
Labour E5, o00 per annum, plus E 2 per unit produced
Fixed costs:
Overheads $\quad \mathrm{E}_{5}, 000$ 'per annum
For several years Bittern has operated a system of variable costing for management accounting purposes. It has been decided to review the system and to compare it for management accounting purposes with an absorption costing system.

As part of the review, you have been asked to prepare estimates of Bittern's profits in constant-level terms over a three-year period in three different hypothetical situations, and to compare the two types of system generally for management accounting purposes.
a) In each of the following three sets of hypothetical circumstances, calculate Bittern's profit in each of years T1, T2 and T3, and also in total over the three year period, $\mathrm{T}_{1}$, to $\mathrm{T}_{3}$, using first a variable costing system and then a full-cost absorption costing system with fixed cost recovery based on a normal production level of 1000 units per annum:

| i. Stable unit levels of production, sales and inventory |  |  |  |
| :--- | :--- | :--- | :--- |
|  | T 1 | T 2 | T 3 |
|  | 100 | 100 | 100 |
| Opening stock | 1000 | 1000 | 1000 |
| Production | 1000 | 1000 | 1000 |
| Sales |  |  |  |
| closing stock | 100 | 100 | 100 |

ii. Stable unit levels of sales, but fluctuating unit levels of sales and inventory Of production and inventory

|  | T 1 | T 2 | T 3 |
| :--- | :--- | :--- | :--- |
| Opening stock | 100 | 600 | 100 |
| Production | 1500 | 800 | 700 |
| Sales closing stock | 1000 | 1000 | 1000 |
|  | 600 | 400 | 100 |

iii. Stable unit levels of sales, but fluctuating unit levels of sales and inventory Of production and inventory

|  | T 1 | T 2 | T 3 |
| :--- | :--- | :--- | :--- |
| Opening stock | 100 | 600 | 400 |
| Production | 1000 | 1000 | 1000 |
| Sales closing stock | 500 | 1200 | 1300 |
|  | 600 | 400 | 100 |

(Note that all the data in i-iii are volumes, not values)
b) Write a short comparative evaluation of variable and absorption costing systems for management accounting purposes, paying particular attention to profit measurement, and using your answer to illustrate your arguments if you wish.

## QUESTION 2

A company in the civil engineering industry with headquarters located 22 miles from London undertakes contracts anywhere in the United Kingdom.

The company has had its tender for a job in North East England accepted at E288 000 and work is due to begin in March. However, the company has also been asked to undertake a contract on the South Coast of England. The price offered for this contract is E352 ooo. Both of the contracts cannot be taken simultaneously because of constraints on staff site management personnel and on plant available. An escape clause enables the company to withdraw from the contract in the North East; provided notice is given before the end of November and an agreed penalty of E28 000 is paid.

The following estimates have been submitted by the company's quantity surveyor:

| Cost estimates | North East <br> E | South Coast |  |
| :--- | :---: | ---: | :---: |
| E |  |  |  |,

## Notes:

1. $\mathrm{X}, \mathrm{Y}$ and Z are three building materials. Material X is not in common use and would not realize much money if re-sold; however, it could be used on other contracts but only as a substitute for another material currently quoted at $10 \%$ less than the original cost of $X$. The price of $Y$, a material in common use, has
doubled since it was purchased; its net realizable value if resold would be its new price less $15 \%$ to cover disposal costs. Alternatively it could be kept for use on other contracts in the following financial year.
2. With the construction industry not yet recovered from the recent recession, the company is confident that manual labour, both skilled and unskilled, could be hired locally on a subcontracting basis to meet the needs of each of the contracts.
3. The plant which would be needed for the South Coast contract has been owned for some years and E12 800 is the year's depreciation on a straight line basis. If the North East contract is undertaken, less plant will be required but the surplus will be hired out for the period of the contract at a rental of E6 000.
4. It is the company's policy to charge all contracts with notional interest at $8 \%$ on estimated working capital involved in contracts. Progress payments would be receivable from the contractee.
5. Salaries and general costs of operating the small headquarters amount to about E108 000 each year. There are usually ten contracts being supervised at the same time.
6. Each of the two contracts is expected to last from March to February which, coincidentally, is the company's financial year.
7. Site management is treated as a fixed cost.

You are required as a Management Accountant to the company to:
a) Present comparative statements to show the net benefit to the company of undertaking the more advantageous of the two contracts
b) Explain the reasoning behind the inclusion in (or omission from) your comparative financial statements, of each item given in the cost estimates and the notes relating thereto.

## Question 3

Liso Ltd operates on Optical shop. The company's recent financial statements and records reveal the following:
E
Average selling price per pair of glasses ..... 700
Variable expenses per pair:
Lenses and frames ..... 280
Sales commission ..... 120
Variable overhead ..... 80
Annual fixed costs:
Admin expenses ..... 180,000
Selling expenses480,000
The company's effective tax rate is $40 \%$Susan, the company director has asked you as a cost accountant to answer the followingquestions about the business
i) a) what is the break-even point in pairs of glasses
b) in money (Emalangeni)?
ii) a) how many pairs of glasses would have to be sold to produce E800,000 of pretax earnings?
b) And how much revenue must be generated to produce the E800, o00 of pretax earnings
iii) a) How many pairs of glasses must be sold to generate E800,000 of after tax profit
b) How much revenue must be generated to produce this after-tax profit?
iv) Susan is considering adding a lens-grinding lab, which will save E6o per pair of glasses in lens cost, but will raise annual fixed costs by E800,000 she expects to sell 50,000 pairs of glasses. Should she make this investment.
v) A marketing consultant told Susan that she could increase the number of glasses sold by $30 \%$ if she would lower the selling price by $10 \%$ and spend E200,00 on advertising. She has been selling 30,000 pairs of glasses. Should she accept this advice?

